



COMPARISON OF LOW MEDIUM AND HIGH INTENSITY RESISTANCE TRAINING PROGRAMMES ON ELASTIC POWER PARAMETER OF ANNA UNIVERSITY MEN PLAYERS

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ABSTRACT

Aim of the study was to find out the low, medium and high intensity resistance training programmes on Elastic Power parameter of Anna University men players. For this purpose, Sixty (N=60) Anna University Intercollegiate men players studying various Engineering Colleges in Salem District, Tamilnadu during the year 2015-201 were selected randomly as subjects. They were divided randomly into four groups of fifteen each i.e., (n=15) Group-I underwent Low Intensity Resistance Training (LIRT), Group-II underwent Medium Intensity Resistance Training (MIRT), Group-III underwent High Intensity Resistance Training (HIRT) and Group-IV acted as Control. The Experimental groups underwent respective training period for three days per week for ten weeks. The dependent variable selected for this study was Elastic Power only. Elastic Power was assessed by Bunny Hop test. All the subjects were tested prior to and immediately after the experimental period on the selected dependent variable. The data obtained from the experimental groups before and after the experimental period were statistically analyzed with dependent 't'-test and Analysis of covariance (ANCOVA). Whenever the 'F' ratio for adjusted post test means was found to be significant, the Scheffe's Post hoc test was applied to determine the paired mean differences. The level of confidence was fixed at 0.05 level for all the cases. The results of the study showed that there was a significant difference among all the three experimental groups namely Low Intensity Resistance Training (LIRT), Medium Intensity Resistance Training (MIRT) and High Intensity Resistance Training (HIRT) programme had significantly improved in Elastic Power. When the Experimental groups were compared with each other, the Medium Intensity Resistance Training (MIRT) programme was found to be greater than the Low Intensity Resistance Training (LIRT), and High Intensity Resistance Training (HIRT) programme on the improvement of Elastic Power.

KEYWORDS

Resistance Training, Intensity, Elastic Power

INTRODUCTION

Sports are universal appeal has led to sport gaining recognition as a simple, low cost and effective medium for achieving key developmental goals. Sport form is an inspirable part of the system of physical education. Physical education offers opportunities in competitive situations for physical, social, emotional and moral developments. Sports and Games are the best ways to earn social recognition and acquire a status in the modern society. Sports and games in the modern era occupy a very prominent and important place in the life of people and also in every sphere of life. Sport consists of physical activity carried out with a purpose for competition, for self-enjoyment, to attain excellence, for the development of a skill, or more often, some combination of these. Sports differ in their dependence upon a set of individuals or team skills, as well as in the ways in which they have their participants compete. As fitness and sports go hand in glove there is a need to develop the ability in an individual to play the game with good skill and perform consistently well.

Training is the main component and the basic form of preparing an athlete for higher level of performance. It is a systematically planned preparation with the help of the exercise which realizes the main factors of influencing an athlete's progress. The content of training includes all the basic types of preparation of the sportsmen such as physical, technical, tactical and psychological. Through systematic training, the athlete's "fitness level" and his acquisition of vital knowledge and skill are improved.

Physical training refers to the processes used in order to develop the components of physical fitness as for example, how to improve aerobic endurance, to stretch and relax muscles, to increase arm and shoulder strength to the related exercise and programmes to specific requirements or individual sports (Rex, 1985).

Resistance training is used to increase the strength level of the

muscles. It is used for performance enhancement as well as injury prevention. The main goal for Resistance Training is to be able to withstand the rigors of competition and enhance the confidence levels of athletes.

The importance of resistance training to sports performance has been supported by studies which have demonstrated that resistance training in the form of weight training and more recently, plyometric training have enhanced some competitive performances. Most typically this has been reported as an improvement in vertical jumping ability. Many studies have reported that resistance training has enhanced muscular strength, but failed to induce changes in dynamic sporting performance (Bloomfield, 1994).

METHODOLOGY

The present study was to find out the low, medium and high intensity resistance training programmes on Elastic Power parameter of Anna University men players. For this purpose, Sixty (N=60) Anna University Intercollegiate men players studying various Engineering Colleges in Salem District, Tamilnadu during the year 2015-201 were selected randomly as subjects. They were divided randomly into four groups of fifteen each i.e., (n=15) Group-I underwent Low Intensity Resistance Training (LIRT), Group-II underwent Medium Intensity Resistance Training (MIRT), Group-III underwent High Intensity Resistance Training (HIRT) and Group-IV acted as Control. The Experimental groups underwent respective training period for three days per week for ten weeks. The dependent variable selected for this study was Elastic Power only. Elastic Power was assessed by Bunny test. All the subjects were tested prior to and immediately after the experimental period on the selected dependent variable. All the subjects of the three groups were tested on selected criterion variables at prior to and immediately after the training programme.

ANALYSIS OF THE DATA

The data collected from the Experimental groups and control group on prior and after experimentation on selected variables were statistically examined by analysis of covariance (ANCOVA) was used to determine differences, if any among the adjusted post test means on selected criterion variables separately. Whenever they obtained f-ratio value in the simple effect was significant the Scheffe's test was applied as post hoc test to determine the paired mean differences, if any. In all the cases 0.05 level of significance was fixed.

The results of the Analysis of Covariance on Elastic Power of the pre, post, and adjusted test scores of Low Intensity Resistance Training (LIRT) group, Medium Intensity Resistance Training (MIRT) group and High Intensity Resistance Training (HIRT) group and Control group are presented in Table – 1.

Table – 1 ANALYSIS OF COVARIANCE ON ELASTIC POWER OF EXPERIMENTAL GROUPS AND CONTROL GROUP

Test	Low Intensity Resistance Training Group	Medium Intensity Resistance Training Group	High Intensity Resistance Training Group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	F ratio
Adjusted Post Test Mean	10.18	10.31	10.24	9.69	Between	3.53	3	1.18	84.40*
					Within	0.77	55	0.013	

** Significant at 0.05 level of confidence (Elastic Power Scores in Seconds)*

Table value for df (3, 56) at 0.05 level = 2.76 Table value for df (3, 55) at 0.05 level = 2.78

The above table-1 shows that the adjusted post-test means on Elastic Power of Low Intensity Resistance Training (LIRT) group, Medium Intensity Resistance Training (MIRT) group and High Intensity Resistance Training (HIRT) group and Control group are 10.18, 10.31, 10.24 and 9.69 respectively. The obtained 'F' ratio of 84.40 for adjusted post-test scores was higher than the table value of 2.78 for degrees of freedom 3 and 55 required for significance at 0.05 level of confidence on Elastic Power.

The results of the study indicate that there are significant differences among the adjusted post test means of Low Intensity Resistance Training (LIRT) group, Medium Intensity Resistance Training (MIRT) group and High Intensity Resistance Training (HIRT) group and Control group and Control group in Elastic Power performance.

To determine which of the paired means have a significant difference, the Scheffe's test is applied as Post hoc test and the results are presented in Table – 4.2.

Table – 4.2 THE SCHEFFE'S TEST FOR THE DIFFERENCES BETWEEN THE ADJUSTED POST TEST PAIRED MEANS ON ELASTIC POWER

Adjusted Post-test Means				Mean Difference	Confidence Interval
Low Intensity Resistance Training Group	Medium Intensity Resistance Training Group	High Intensity Resistance Training Group	Control Group		
10.18	10.31			0.13*	0.12
10.18		10.24		0.06	0.12

10.18			9.69	0.49*	0.12
	10.31	10.24		0.07	0.12
	10.31		9.69	0.62*	0.12
		10.24	9.69	0.55*	0.12

** Significant at 0.05 level of confidence*

Table-2 shows that the adjusted post test mean differences on Elastic Power between Low Intensity Resistance Training group (LIRT) and Medium Intensity Resistance Training group (MIRT), Low Intensity Resistance Training group (LIRT) and Control group, Medium Intensity Resistance Training group (MIRT) and Control group, High Intensity Resistance Training group (MIRT) and Control group were 0.13, 0.49, 0.62 and 0.55 respectively. Which are greater than the confidence interval value of 0.12 on Elastic Power at 0.05 level of confidence.

Further the adjusted post test mean differences on Elastic Power between Low Intensity Resistance Training group (LIRT) and High Intensity Resistance Training group (HIRT), Medium Intensity Resistance Training group (MIRT) and High Intensity Resistance Training group (HIRT), were 0.06, and 0.07 respectively. Which are lesser than the confidence interval value of 0.12 on Elastic Power at 0.05 level of confidence.

The results of the study showed that there was a significant difference between Low Intensity Resistance Training group (LIRT) and Medium Intensity Resistance Training group (MIRT), Low Intensity Resistance Training group (LIRT) and Control group, Medium Intensity Resistance Training group (MIRT) and Control group, High Intensity Resistance Training group (MIRT) and Control group on Elastic Power. The results of the study showed that there was no significant difference between Low Intensity Resistance Training group (LIRT) and High Intensity Resistance Training group (HIRT), Medium Intensity Resistance Training group (MIRT) and High Intensity Resistance Training group (HIRT) on Elastic Power.

The above data also reveal that Medium Intensity Resistance Training group (MIRT) had shown better performance than Low Intensity Resistance Training group (LIRT), High Intensity Resistance Training group (HIRT) and Control group in Elastic Power.

The adjusted post mean values of Low Intensity Resistance Training group (LIRT), Medium Intensity Resistance Training group (MIRT) and High Intensity Resistance Training group (HIRT) on Elastic Power are graphically represented in the Figure –4.1.

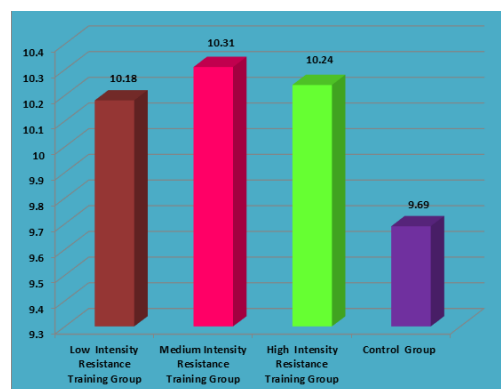


Figure: 4.1 The Adjusted Post Mean Values of Low Resistance Training group (LIRT), Medium Resistance Training group (MIRT) and High Resistance Training group (HIRT) on Elastic Power (In Seconds)

CONCLUSION

From the analysis of the data, the following conclusions were drawn.

1. The Low Intensity Resistance Training group (LIRT), Medium Intensity Resistance Training group (MIRT) and High Intensity Resistance Training group (HIRT) programme had registered

significant improvement on Elastic Power.

2. When the Experimental groups were compared with each other, the Medium Intensity Resistance Training (MIRT) programme was found to be greater than the Low Intensity Resistance Training (LIRT) programme, High Intensity Resistance Training (HIRT) programme and Control group on the increase of selected criterion variable namely Elastic Power

REFERENCES

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